

WHAT IS CLAIMED IS:

1. A class D amplifier comprising:

a modulating circuit which modulates a input signal into  
a pulse signal;

5 a first driving circuit which drives a first output

transistor which outputs a signal level corresponding to a

high power supply to an output terminal;

a second driving circuit which drives a second output

transistor which outputs a signal level corresponding to a

10 lower power supply to the output terminal,

wherein the pulse signal is supplied to the first and

second driving circuits to complementarily drive the first and

second output transistors;

a first detecting circuit disposed in the first driving

15 circuit, which detects an overcurrent flowing through the

first output transistor to output a first signal;

a second detecting circuit disposed in the second driving

circuit, which detects an overcurrent flowing through the

second output transistor to output a second signal; and

20 a gate circuit which, in response to one of the first and

second signals, blocks the pulse signal to be input to the

first and second driving circuits.

2. The class D amplifier according to claim 1 further comprising:

a signal converting circuit which converts the first

5 signal to a third signal based on the lower power supply; and

an adding circuit which adds together the second signal

and the third signal,

wherein the gate circuit which, in response to an output

signal of the adding circuit, blocks the pulse signal to be

10 input to the first and second driving circuits.

3. The class D amplifier according to claim 2, wherein the

first driving circuit is operated by a first internal power

supply based on a potential of the output terminal to drive

15 the first output transistor, and

the second driving circuit is operated by a second

internal power supply based on the lower power supply to drive

the second output transistor.

20 4. The class D amplifier according to claim 2, wherein the

signal converting circuit includes:

a first transistor which is conductive in response to the

first signal, one end of a current path thereof being  
connected to a power supply of the first driving circuit,

a load element connected between the other end of the  
current path of the first transistor and the lower power

5 supply, and

a second transistor which is conductive in response to a  
signal that appears between the first transistor and the load

element, a current path being connected between the lower  
power supply and an input of the adding circuit.

10

5. The class D amplifier according to claim 4, wherein the

first transistor is pnp bipolar transistor and the second  
transistor is npn bipolar transistor.

15